

Solving Equations with Variables on Both Sides

$$\begin{aligned}6x - 7 &= x + 23 \\6x - x - 7 &= x - x + 23 \\5x - 7 &= 23 \\5x &= 30 \\x &= 6\end{aligned}$$

Solve each equation for the given variable.

1. $2x - 7 = 3x + 4$

11. $9a + 5 = 3a - 1$

2. $-7c + 9 = c + 1$

12. $6(x - 9) = 4(x - 5)$

3. $4(2y - 4) = 5y + 2$

13. $2(x - 4) + 8 = 3x - 8$

4. $-6 - 2n = 3n - (6 + 5)$

14. $3x - 3 = -3x + -3$

5. $4(t + 5) - 3 = 6t - 13$

15. $-10x + 6 = -7x + -9$

6. $2(r - 4) = 5(r + -7)$

16. $5 + 3x = 7(x + 3)$

7. $7 - 6a = 6 - 7a$

17. $\frac{5}{2}x + 3 = \frac{1}{2}x + 15$

8. $12m - 9 = 4m + 15$

18. $2x + 6 = 5x - 9$

9. $8(x - 3) + 8 = 5x - 22$

19. $4e - 19 = -3(e + 4)$

10. $3c - 12 = 14 + 5c$

20. $5t + 7 = 4t - 9$